

Claims 1-20 stand rejected under 35 U.S.C. § 102(b) as being considered to be anticipated by U.S. Patent No. 5,691,726 to Nichols et al. ("Nichols").

Claims 2, 7, 16, 17 and 20 have been canceled rendering the rejection with respect to these claims moot.

5 Claim 1 includes the limitations

10 an intentional radiator including an antenna and a ground plane, the ground plane to be electrically connected to shielding by a direct solder connection between a portion of a surface of the ground plane and the shielding, the shielding including an opening for the antenna, the intentional radiator to be positioned such that the antenna radiates through the opening and the ground plane at least partially physically blocks emissions through the opening.

(Claim 1)(Emphasis added).

15 Applicant respectfully submits that Nichols does not teach or suggest the claimed features of applicant's invention including an intentional radiator in which a portion of a surface of a ground plane is soldered directly to shielding.

20 Nichols discloses a GPS/Radio antenna that includes a microstrip antenna element for one aspect. In accordance with Nichols, the microstrip antenna element includes a dielectric substrate, a metal radiating layer, a metal ground layer covering the bottom side of the substrate and a via to connect the radiating layer to a preamplifier. (Nichols, col. 4, lines 10-21).

25 A printed circuit board includes components for a tuning network on a bottom side and a ground plane on a top side that is in electrical contact with the ground layer of the antenna element. (Nichols, col. 4, lines 41-50). The top and bottom of the printed circuit board are electrically connected at an outside edge

to the base using either vias or conductive material wrapped around the edge of the board. (Nichols, col. 4, line 66 – col. 5, line 4).

In contrast, as set forth in claim 1, an intentional radiator includes a ground plane having a portion of its surface directly soldered to shielding.

5 Nichols does not teach or suggest a direct solder connection between a ground plane of an intentional radiator and shielding that includes an opening through which an antenna radiates. For at least this reason, claim 1 cannot be considered to be anticipated by Nichols.

Independent claims 4, 9, 14 and 18 include a similar limitation. Claim 3, 10 claims 5-6 and 8, claims 10-13, claim 15, and claim 19 depend from and further limit claims 1, 4, 9, 14 and 18, respectively. Thus, for the reasons discussed above in reference to claim 1, claims 3-6, 8-15 and 18-19 should also be found to be patentably distinguished over the Nichols reference for at least the same reasons.

15 Claims 1-5, 7-9, and 11-20 further stand rejected under 35 U.S.C. § 102(b) as being considered to be anticipated by U.S. Patent No. 5,668,563 to Ogino et al. (“Ogino”).

Ogino discloses an integral type flat antenna provided with a converter function. In accordance with Ogino, a grounding plane for the antenna element 20 is electrically connected to an upper case of a housing in order to ground the antenna element. (Ogino, col. 6, lines 64-66.)

As shown in Figure 3 of Ogino, there is no contact between a surface of the ground plane 41 of Ogino and the housing 32. For at least this reason,

Ogino cannot be considered to anticipate claim 1 as set forth above which includes a limitation of a ground plane having at least a portion of its surface directly soldered to shielding.

As argued above, independent claims 4, 9, 14 and 18 include a similar 5 limitation as that discussed above in reference to claim 1. Claim 3, claims 5-6 and 8, claims 10-13, claim 15, and claim 19 depend from and further limit claims 1, 4, 9, 14 and 18, respectively. Thus, for the reasons discussed above in reference to claim 1, claims 3-6, 8-15 and 18-19 should also be found to be patentably distinguished over the Ogino reference for at least the same reasons.

10 Applicant respectfully submits that the applicable objections and rejections have been overcome and claims 1, 3-6, 8-15 and 18-19 are in condition for allowance. If the examiner disagrees or believes that further discussion will expedite prosecution of this case, he is invited to telephone applicant's representative at the number indicated below.

15 If there are any charges, please charge Deposit Account No. 02-2666.

Respectfully submitted,

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12/21/01

Date

VERSION OF AMENDED CLAIMS WITH MARKINGS TO SHOW CHANGES

1. (Three Times Amended) An apparatus comprising:
an intentional radiator including an antenna and a ground plane, the ground plane to be electrically [coupled] connected to shielding by a direct solder connection between a portion of a surface of the ground plane and the shielding, the shielding [that includes] including an opening for the antenna, the intentional radiator to be positioned such that the antenna radiates through the opening and the ground plane at least partially physically blocks emissions through the opening.

4. (Twice Amended) An apparatus comprising:
an intentional radiator including an antenna and a ground plane; and shielding including an opening, the antenna to radiate through the opening, the shielding being coupled to the ground plane by a direct solder connection between a portion of a surface of the ground plane and the shielding, the ground plane being oriented to at least partially physically block emissions through the opening.

9. (Twice Amended) A system comprising:
a device to be shielded;
an intentional radiator including an antenna and a ground plane;

shielding enclosing the device to be shielded except for an opening proximate to the antenna, the shielding being electrically coupled to the ground plane by a direct solder connection between a portion of a surface of the ground plane and the shielding, the ground plane being oriented to at least partially physically block emissions through the opening from the device to be shielded.

14. (Twice Amended) A method for integrating an intentional radiator in a system, the method comprising:

electrically coupling a ground plane of an intentional radiator to system shielding that includes an opening for an antenna coupled to the intentional radiator by directly soldering a portion of a surface of the ground plane onto the shielding; and

orienting the ground plane such that the ground plane at least partially physically blocks emissions through the opening.

18. (Twice Amended) An apparatus comprising:
a means for shielding including an opening for an antenna; and
a [means for coupling the shielding to] direct solder connection between a portion of a surface of a ground plane of an intentional radiator including the antenna and the shielding, the ground plane being oriented to at least partially physically block emissions through the opening.